PR-23. QUINOLACTACINE ANALOGUES: SYNTHESIS AND THERMAL STABILITY

A. A. Boteva, I. V. Fefilova, O. P. Krasnykh

Research and Educational Center of Applied Chemical and Biological Research,
Perm National Research Polytechnic University, Komsomolsky av., 29, Perm, 614990, Russia

E-mail: ol.krasnykh@pstu.ru

The 4-quinolone fragment is present in a diverse range of biologically active compounds.

An unique core structure comprised of 4-quinolone annulated with pyrrolone was discovered in quinolactacines (Figure 1, **1**) and quinolactacide (Figure 1, **2**) isolated from the *Penicillium* species and from *Cladosporium* fungus [1, 2]. Synthetic quinolactacine analogues were obtained and reactions leading to different types of annulated products (Figure 1, **3, 4**) were studied [3].

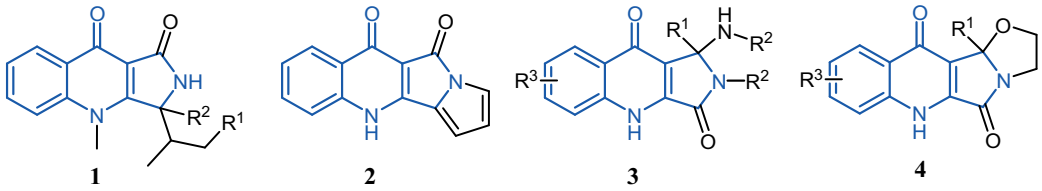
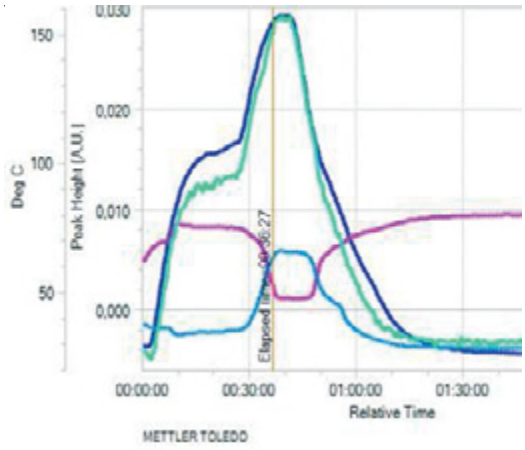


Fig. 1. Structures of natural and synthetic pyrrolo[b]quinolones

The key reaction's conditions as well as thermal stability of final products were studied *in situ* as a preparation step to application of the continued flow technology. The reversible thermal rearrangement was observed which led to intensively colored at the higher temperatures products (Figure 2, *in situ* IR spectroscopy data).



light blue – 1651 cm^{-1}
green – 1576 cm^{-1}
pink – 1700 cm^{-1}
dark blue – temperature at the reaction mixture

Fig. 2. Representative trends of the characteristic absorption bands for thermal rearrangement of type **3** product

References

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